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ABSTRACT

A set of procedures for validating the Army's Skill Qualification Tests (SQT) are described. Three phases are discussed: (1) the selection of tasks, (2) the selection of specific content for hands-on performance test items, and of written self-evaluation components, and (3) the establishment of content validity of the hands-on component. The task selection phase involves the development of a list of tasks and components to be tested, the rationale for the selection and allocation approaches, and a soldier's manual; and the construction of a satisfactory SQT sample to be tried out. The sample of scorable item units should be submitted for approval, revised, and then fully developed. The second phase includes the informal administration of the scorable units to test developers and to personnel who are experts at that task, and the revision of the hands-on component. The third phase involves the validation of at least two written scorable units with the corresponding performance test, the administration of each unit to 30 soldiers, and further revisions. Sample evaluation and summary sheets are appended. (HV)

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# PROCEDURES FOR VALIDATING SKILL QUALIFICATION TESTS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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U. S. Army

Research Institute for the Behavioral and Social Sciences

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PROCEDURES FOR VALIDATING SKILL QUALIFICATION TESTS

1. Improved procedures for validating Skill Qualification Tests have been prepared for your use. The improved procedures are based on experience gained during development of SQT by the schools in EPMS Implementation Group I and review by ITEG. An outline of the new validation procedures is presented at Inclosure 1. The details of the new validation procedures are presented in this letter which incorporate the most current guidance and are at Inclosure 2. The November 1975 version of the validation procedures is obsolete.

2. Four major lessons were learned during the development, validation, and ITEG review of the first set of SQT. These are:

a. ITEG review of the Scoreable Units occurred too late to provide timely guidance to the Test Development Activities (TDA) on the content of the Scoreable Units. Accordingly, new procedures are set forth in this letter (paragraph 3, below) to have ITEG review the SQT Scoreable Units and components prior to tryout on soldiers.

b. The validation procedures presented in the November 1975 version were not suitable for low density MOS. New procedures have been developed that can be used for all MOS, both high and low density. These procedures are described in paragraph 4 below.

c. Representative soldiers for use in trying out the SQT in the field were not available for many MOS. The sequence of validating and reviewing Scoreable Units has been changed to provide more useful information to both the TDA and ITEG. These changes are described in paragraph 5.

d. The purpose of each phase of the validation procedure was not fully understood, and as a result the validation procedures sometimes were not modified to adapt to local conditions. The reasons for completing each step of the validation are contained in the succeeding paragraphs of this letter.

3. ITEG will review Scoreable Units before they are tried out on soldiers. The sequence of reviewing and validating hands-on and written Scoreable Units is presented at Inclosure 1. The significant reviews by ITEG are as follows:

a. The first review is of the SQT Plan which is submitted to ITEG for approval prior to the construction of Scoreable Units. The SQT Plan lists the tasks covered by the SQT and the Component (written, hands-on, or performance certification) to which a task is assigned for testing. Included in the submission of the SQT Plan is a draft of the Soldier's Manual. (Detailed procedures for preparing and submitting the SQT Plan are contained in a separate document.) ITEG will complete their review of the SQT Plan within 10 working days after receiving it. In the meantime, TDA will begin construction of the SQT sample (see para 3b).

b. After the SQT Plan has been approved by ITEG, a sample of Scoreable Units is sent to ITEG for review. The sample is to consist of 5 or 6 written Scoreable Units, 2 hands-on Scoreable Units (if the SQT contains a hands-on component) and all performance certification Scoreable Units (if the SQT contains a performance certification component). Along with the sample of Scoreable Units, the SQT Notice and the task analyses corresponding to those Scoreable Units must also be submitted. The task analyses will have the essential and key steps identified. (Essential steps are those behaviors necessary to perform the task, and key steps are the behaviors that have serious consequences to personnel or equipment, or are frequent sources of failure in performing the task.) ITEG will review the content of Scoreable Units to judge whether the content of the Scoreable Units adequately covers task performance. ITEG will reply to the TDA within 10 working days after receiving the sample Scoreable Units. If the sample is not approved by ITEG, it will be returned to the TDA for revision and a second sample would then be prepared and submitted for ITEG review. In the event that the second sample is not satisfactory, direct contact between ITEG and TDA representatives will be required. This paragraph and 3a above corresponds to Phase 0 in Inclosure 1.

c. After receiving approval from ITEG that the content of the sample is satisfactory, the entire written and hands-on components will be developed. Each of the hands-on and written Scoreable Units will be tried out locally with five experts. The tryout will be conducted one-on-one to confirm that the masters can consistently pass the Performance Measures or items and to confirm the acceptability of the Scoreable Unit as a measure of ability to perform the task. Different groups of experts may need to be assembled to cover all Scoreable Units. In addition to the tryout on five experts, the hands-on Scoreable Units will be tried out on five novices with four raters to determine scoring agreement of the raters. Satisfactory Performance Measures can be scored consistently by the raters; unsatisfactory Performance Measures, which cannot be

scored consistently, must be revised until raters can agree on their scoring. Following this try out of all Scoreable Units, the entire components will be submitted to ITEG together with (1) the task analysis for each task tested, (2) a summary of the results of the tryout and review, (3) all administrative instructions, and (4) the SQT Notice. The task analysis will have the essential and key steps identified. ITEG will review the components to judge the adequacy of the Scoreable Units to measure performance on the essential and key steps of the tasks. This step corresponds to Phase I in Inclosure 1.

d. The content of the Scoreable Units cannot be changed after ITEG approval (except by approval from ITEG). Items or Performance Measures found to be unsatisfactory on the basis of tryout on soldiers will be revised to improve them, but not to the extent of changing content. Specifically, unsatisfactory items or Performance Measures cannot be deleted without approval. They will be revised until satisfactory.

e. The final ITEG review is of the complete SQT after it has been tried out on soldiers; a summary of the tryout results must also be submitted to ITEG. The entire SQT package is submitted to ITEG for review and approval prior to operational administration.

f. In the November 1975 validation procedures, the written and hands-on components were scheduled for submission to ITEG after tryout with representative soldiers in the field (called Phase II in that document). The content review will no longer be delayed until after Phase II (as detailed in para 3b and c). The final step of Phase II is now the submission of validated written and hands-on components and summary of tryout results. The review procedures described above supercede the procedure contained in the November 1975 document.

g. The primary reason for early ITEG review of the Scoreable Units is to provide timely guidance to the TDA about the adequacy of the procedures for developing Scoreable units. The old procedures of ITEG review after tryout on soldiers occurred too late to be of much use in the development process. Under the new review procedures, the TDA are assured that the final SQT submitted to ITEG after tryout will be acceptable for operational administration.

4. The validation procedures have been improved to make them more useful for low-density MOS, as well as high-density MOS. The details of how to conduct the validation are presented in Inclosure 2. The hands-on component, after approval of the test by ITEG, will be tried out in a representative unit. The written component, again after approval of the content by ITEG, will be tried out on 30 soldiers. The tryout can be conducted locally on soldiers that are available or in field units on representative soldiers, or on a combination of locations and soldiers. Some special considerations that apply to the written component are as follows:

a. Written Scoreable Units will be evaluated on two bases. The first is that performance on the items must be related to self-ratings of ability to perform the task covered by the Scoreable Units. The self-ratings are used to identify groups of experts and novices, and the grouping of the sample into experts and novices may be different for each task. Most soldiers, no matter how experienced, are not experts on all tasks included in an SQT. The second basis for evaluating items is that all of them in a Scoreable Unit must be consistent indicators of ability to perform the task. In other words, the degree of consistency is measured by how well each pair of items agrees in indicating mastery/nonmastery. Soldiers who can perform the task should tend to pass the items, and soldiers who cannot perform the task should tend to fail the items. Items that are unsatisfactory on one or both bases must be revised until they are satisfactory. When revising the unsatisfactory items, care must be exercised not to change the test content.

b. The reason for evaluating the written Scoreable Units against both self-ratings and Item-Scoreable Unit agreement is to obtain as much information as possible about the quality of the items from the tryout. Locating soldiers to take the test and administering the test is time consuming, and therefore should be held to a minimum. Items that are satisfactory on both bases are more likely to be satisfactory in operational administration. Items unsatisfactory on both counts require revision, and items unsatisfactory on one of the bases should be examined carefully to see if revision is required. All items will be evaluated again by ITEG after operational administration but prior to setting the final scoring key, and all unsatisfactory items will be deleted before setting the final scoring key. However, if unsatisfactory items are administered operationally, soldiers waste precious testing time taking these items and the effectiveness of the Scoreable Units is weakened.

c. The entire written component will be tried out at the same time. This way the testing time can be estimated. Testing time is a scarce resource; therefore, TDA should take full advantage of the allotted four hours, with the only provision being that 90 percent of the soldiers must finish the component within four hours. Scoreable Units found satisfactory during the first tryout need not be evaluated again. Unsatisfactory items and Scoreable Units must be revised and tried out until they are satisfactory. Changes to the test content must be approved by ITEG.

d. Written components that have special administrative requirements and instructions must be tried out by a representative TCO at a representative installation to determine adminstrative feasibility. The response of the soldiers from this administration can be included with the results of the previous tryout to evaluate the Scoreable Units. The administrative requirements and instructions, if not satisfactory, must

be revised until they are satisfactory.

e. The reason for trying out the Scoreable Units prior to operational administration is to improve their quality as measures of ability to perform the tasks. The sample of soldiers used in the tryouts should be familiar with tasks covered by the Scoreable Units, and the range of ability in the sample should be from the experienced expert to the beginning novice. If the sample, as a whole, lacks familiarity with the task covered by a Scoreable Unit, then the results of the tryout are of little value. If most soldiers respond randomly to the items, then the Scoreable Unit may appear to be unsatisfactory but in fact it may be satisfactory if tried out on experienced soldiers. Therefore, if a Scoreable Unit is found to be unsatisfactory and expert review shows no faults in the items and the sample contains few self-rated experts, then the Scoreable Unit should be tried out again on another group of soldiers who are experienced on the task. As a rule, experienced soldiers provide more useful information about Item-Scoreable Unit agreement, and these should be included in the sample. Some novices should also be included to make sure that the Scoreable Units do indeed distinguish between masters and nonmasters.

f. The sample size should be a minimum of 30 soldiers to evaluate Scoreable Units. With samples of this size, individual responses have a relatively small effect on the trend for the group. In many cases, 30 soldiers are not available for tryout of the written component. In such a case, obtain as many experienced soldiers as possible, including those in related MOS who may have some familiarity with the tasks, and administer the test to them. Since the SQT will be evaluated after operational adminstration and unsatisfactory items and Scoreable Units deleted, the likelihood of fielding a satisfactory SQT is increased by trying out the Scoreable Units on a group as representative as possible of the target population.

5. Representative soldiers in the field are not readily available for many of the MOS. A problem that occurs especially in many machine-oriented MOS is that soldiers in a unit tend to be specialized. In a tryout of the SQT on these soldiers, they can provide useful information for the Scoreable Units relevant to their assigned job tasks, but only limited information on the remaining Scoreable Units. Since the Soldier's Manuals and SQT Notice are usually not available in sufficient time for study, the soldiers have no opportunity to prepare for the test, and the results are not truly representative of those expected in operational administration. The new validation procedures, therefore, delete the requirement that the SQT be evaluated in two phases. Inclosure 1 specifies that both the hands-on and written components be tried out on soldiers in only one phase, now called Phase II. Phase III validation is part of the operational adminstration process. A representative sample of soldiers' tests are selected and used for the item analysis of Scoreable Units prior to final scoring and grading.

OUTLINE OF VALIDATION PROCEDURE

Phase 0 - SELECT TASKS

- Develop SQT Plan
  - . List tasks to be tested
  - . Allocate tasks to component:
    - Hands-on
    - Written
    - Performance Certification
  - . Rationale
  - . Soldier's Manual
- -- Submit to ITEG for Review and Approval
- Construct Sample of Scoreable Units
  - . Task Analyses, specify Essential and Key steps
  - . Scoreable Units
    - 5-6 Written
    - 2 Hands-on
    - All Performance Certification
  - . SQT Notice
- -- Submit to ITEG for Review and Approval
- TASKS ARE ESTABLISHED

Phase I - ESTABLISH SPECIFIC CONTENT

HANDS-ON AND WRITTEN COMPONENTS

- Test all Scoreable Units on 5 Experts; revise as required
  - . One-on-one Tryout
  - . Confirm Mastery
  - . Determine Acceptability
- Try Out Hands-on Scoreable Units on 5 Novices with 4 Raters; revise as required
  - . Compute Rater Agreement
- Assemble Components
  - . Task Analysis, specify Essential and Key Steps
  - . Summary of Tryout
  - . Administrative Instructions
  - . SQT Notice

-- Submit to ITEG for Review and Approval

- SCOREABLE UNITS ARE ESTABLISHED

Phase II - ESTABLISH VALIDITY OF COMPONENTS

HANDS-ON COMPONENT

- Try Out Locally on Representative Soldiers with 4 Raters; revise as required
  - . Compute Rater Agreement
  - . Determine Acceptability
    - Soldiers
    - Raters
  - . Judge Administrative Feasibility
- Try Out with Representative TCO, Soldiers, and Raters; revise as required
  - . Determine Administrative Feasibility
  - . Determine Acceptability
    - Soldiers
    - Raters
- Assemble Final Component
  - . Summary of both Tryouts

-- Submit to ITEG for Review and Approval

WRITTEN COMPONENT

- Try Out 2 Scoreable Units Against Performance Tests
  - . Confirm Mastery
  - . Compute Item-Performance Test Agreement
- Try Out on 30 Soldiers; revise as required
  - . Identify Experts and Novices with Self-Ratings
  - . Compute Self-Rating - Scoreable Unit Agreement
  - . Compute Item - Scoreable Unit Agreement
  - . Determine Acceptability
- Try Out Component Containing Unique Instructions with Representative TCO and Soldiers; revise as required
  - . Determine Administrative Feasibility
- Assemble Final Component
  - . Summary of all Tryouts

-- Submit to ITEG for Review and Approval

PHASE 0 - SELECT TASKS

1. Develop SQT Plan.

a. The SQT Plan contains the following information:

(1) list of tasks to be tested

(2) which component (hands-on, written, or performance certification) a task is to be tested in

(3) a rationale for the selection and allocation approaches

(4) a draft Soldier's Manual, the Soldier's Manual pages corresponding to each task included in the SQT plan, or if the Soldier's Manual is not available, a complex task analysis for each selected task.

b. Select tasks for testing. When selecting tasks, place emphasis on task importance rather than random coverage across all functional areas. The two major classes of importance are: (1) criticality to mission accomplishment, based on expert judgments, and (2) performance deficiencies in the field, documented by field data demonstrating weak performance. Potential sources of data include ARTEP results, maintenance management center data, ESC report, IG inspection reports, and morning report.

c. Assign tasks to components. Whenever possible, assign tasks to the component in which they most naturally fit. Since for most tasks, performance requires physical skills, which are best measured in the hands-on component, most tasks should be tested in the hands-on component whenever possible. Feasibility, task content, task criticality, and specification of key and essential steps are among the major allocation criteria. (Essential steps are

behaviors necessary to perform the task, and key steps are the behaviors that have serious consequences to personnel or equipment, or are frequent sources of failure in performing the task. Criteria for allocating tasks to components are listed in a separate document.

d. Submit SQT plan to ITEG for review and approval. ITEG will complete their review of the SQT plans within 10 working days after receiving it.

e. Revise SQT plan as required by ITEG.

2. Construct a satisfactory SQT sample.

a. Construct a sample of Scoreable Units. The sample is to consist of

(1) 5 or 6 written Scoreable Units

(2) 2 hands-on Scoreable Units

(3) all performance certification Scoreable Units

(4) SQT Notice corresponding to the submitted Scoreable Units

(5) Task analyses corresponding to the submitted Scoreable Units. The task analyses shall identify all essential and key behaviors.

b. Submit the sample of Scoreable Units to ITEG for review and approval. ITEG will review the content of Scoreable Units to judge whether the content of the Scoreable Units adequately covers actual task performance. ITEG will reply to the Test Development Activity within 10 working days after receiving the sample Scoreable Units.

c. If ITEG approves the sample, i.e., finds the content of the sample satisfactory, develop the entire written and hands-on components and proceed to Phase I.

d. If ITEG does not approve the sample, that is, finds the content of the sample unsatisfactory, revise the sample and also construct a second sample of Scoreable Units.

e. Submit the second sample of Scoreable Units to ITEG.

f. If ITEG approves the second sample, develop the entire written and hands-on components and proceed to Phase I.

g. If ITEG does not approve the second sample, direct contact between ITEG and Test Development Activity (TDA) representatives is required. Once ITEG has approved a sample of Scoreable Units produced by the TDA, the TDA will develop the entire written and hands-on components and proceed to Phase I.

## PHASE I - ESTABLISH SPECIFIC CONTENT

### Hands-on Component

Description of Hands-on Component: Each Scoreable Unit in the hands-on component contains all the information needed to administer and score the Scoreable Unit. This includes: (a) administrative instructions detailing how to set up the test stations for their Scoreable Units, (b) pretest conditions checklists indicating the status of equipment and materials before any soldier is tested, (c) specific testing instructions stating exactly what is read to the soldier and what the soldier reads to himself in case printed instructions are used, and (d) scoring instructions listing what Performance Measures are scored and the exact manner in which each Performance Measure is scored. Include a pretest conditions checklist, testing instructions, and scoring instructions on a one-page scoresheet which can be used for scoring each soldier after setting up the test station.

1. Administer Scoreable Units to available test developers one at a time. These informal administrations may identify Performance Measures and Scoreable Units in need of major revision.

2. Test all Scoreable Units with at least five experts. Conduct one-on-one tryout locally on experts to confirm that the masters of a task can consistently pass the Performance Measures of the Scoreable Unit derived from the task and to confirm the acceptability of the Scoreable Unit as a measure of ability to perform the task. Different groups of experts may need to be assembled to cover all Scoreable Units.

a. Select experts by first providing soldiers with a detailed description of the task that specifies the task conditions and standards, and then asking them to answer a self-rating question. Two prototype self-rating formats are provided. Select the question most appropriate for the set of tasks, and have the soldiers answer that question.

How well can you perform the task?

0. Not familiar with the task.

1. Not very well.

2. Fairly well.

3. Very well.

To perform the complete task, how much technical guidance would you require from someone who knows how to perform the task?

0. Not familiar with the task

1. Lots.

2. Some.

3. None.

For validating hands-on Scoreable Units, experts are soldiers who select alternative 3, "Very well," or "None."

b. Test one expert at a time and have each expert scored by two raters (one to be the test administrator and one to be the observer). The raters must score independently of each other. If the two raters do not agree on each Performance Measure, then the scoresheet or administrative instructions, or both, must be revised before testing another expert.

c. Test another expert on the Scoreable Unit; if the examiners agree on all Performance Measures, then continue testing experts until perfect agreement between the two examiners is obtained on five experts.

d. Require that at least 80 percent of the experts be scored GO on the Scoreable Unit and at that at least 80 percent pass each Performance Measure within the Scoreable Unit. (A summary form to be used for ITEG submittal is located on p. 51 .)

e. Determine acceptability of the Scoreable Unit to the experts immediately after they are tested. Determine the criticality, fairness, and feasibility of the Scoreable Unit by having the experts review the task analysis and the specification of key and essential behaviors, and then complete question sheets 1 and 2 (pp. 44-45). Require that at least 80 percent of the experts answer yes to each question. (A summary form to be used for ITEG submittal is located on p. 49 .)

f. Revise Performance Measure(s) and Scoreable Units as required.

3. Try out all Scoreable Units on at least 5 novices with 4 raters to determine rater agreement. Satisfactory Performance Measures can be scored consistently by the raters; unsatisfactory Performance Measures, cannot be scored consistently.

a. Select groups of novices by first providing soldiers with a detailed description of the task that specifies the task conditions and standards, and then asking them one of the questions in 1a, above (self-ratings of ability to perform the tasks). Novices are soldiers who select alternative 1, "Not very well" or "Lots".

b. Test one novice at a time and have each novice scored by four raters (one serving as the test administrator). The raters must score independently of each other.

c. Determine the scoring agreement between all possible pairs of raters for each Performance Measure. At least 80 percent of the rater pairs must agree on each Performance Measure, for the Performance Measure to be satisfactory.

Consider the following example of a Performance Measure in a hands-on Scoreable Unit. In this example there are five novices and each was scored pass or fail by all four raters. The following codes are used in the table:

A = agreements among pairs of raters

D = disagreements among pairs of raters

1 = novice scored pass on the Performance Measure

0 = novice scored fail on the Performance Measure

EXAMPLE OF A SATISFACTORY PERFORMANCE MEASURE

| NOVICES | RATERS | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | A | D |
| 1 | 1 | 1 | 1 | 1 | 6 | 0 |
| 2 | 1 | 1 | 1 | 1 | 6 | 0 |
| 3 | 1 | 0 | 1 | 1 | 3 | 3 |
| 4 | 1 | 1 | 0 | 1 | 3 | 3 |
| 5 | 0 | 0 | 0 | 0 | 6 | 0 |
| | | | | | 24 | 6 |

Construction and Interpretation of Table to Compute Agreement

(1) List the novices and raters as shown above.

(2) Record the pass or fail score assigned to each novice by each of the raters.

(3) Record the number of agreements (A) and disagreements (D) between pairs of raters. For example, novices 1 and 2 were scored pass by all raters, which means that all six pairs of raters were in agreement: 1 & 2, 1 & 3, 1 & 4, 2 & 3, 2 & 4, and 3 & 4. Record a 6 under column A and 0 under column D for novices 1 and 2. Novice 3 was scored pass by three raters and fail by one rater, which means that three pairs of raters were in agreement (1 & 3, 1 & 4, and 3 & 4) and three pairs were in disagreement (1 & 2, 2 & 3, and 2 & 4).

(4) Add the numbers in the A and D columns. In this example there were 24 in the A column and 6 in the D column.

(5) Calculate the agreement between rater pairs. In this example: Percent Agreement between rater pairs = $[24 \div (24 + 6)] \times 100 = 80\%$; therefore, the 80 percent agreement criterion is satisfied.

(6) Repeat this procedure for each Performance Measure of a Scoreable Unit.

(7) Identify all Performance Measures with less than 80 percent rater agreement. Indicate which Performance Measures are unsatisfactory with respect to rater agreement on the summary forms submitted to ITEG. (p. 52 ) ITEG will consider this information in its evaluation of the content and feasibility of the Hands-on Scoreable Units.

EXAMPLE OF AN UNSATISFACTORY PERFORMANCE MEASURE

| NOVICES | RATERS | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | A | D |
| 1 | 1 | 1 | 1 | 1 | 6 | 0 |
| 2 | 1 | 1 | 0 | 1 | 3 | 3 |
| 3 | 1 | 0 | 0 | 1 | 2 | 4 |
| 4 | 1 | 1 | 1 | 0 | 3 | 3 |
| 5 | 0 | 1 | 1 | 0 | 2 | 4 |
| | | | | | 16 | 14 |

% Agreement between rater pairs = [16 ÷ (16 + 14)] x 100 = 53%

In this example, the agreement was less than the required 80 percent.

d. Determine acceptability to raters. The raters of each Scoreable Unit must complete question sheet 2; seventy-five percent must indicate acceptance of each Scoreable Unit as valid, fair, and feasible. (A summary form to be used for ITEG submittal is located on p. 50.)

3. Assemble the hands-on component to include:

(a) the Scoreable Units of the hands-on component;

(b) summary of the tryouts on experts and novices (use the summary forms);

(c) task analysis specifying the key and essential steps for each task;

(d) all administrative instructions;

(e) the SQT Notice (identifying that portion specific to the hands-on component).

5. Submit the hands-on component and all other requested documentation to ITEG for review and approval.

6. Revise the hands-on component as requested by ITEG. Obtain final approval from ITEG.

> Once the hands-on component has been approved by ITEG the contentof each Performance Measure within each Scoreable Unit is fixed. It cannot be changed without approval from ITEG. Performance Measures found to be unsatisfactory during Phase II Validation will be revised to improve them, but not to the extent of changing content. Unsatisfactory Performance Measures cannot be deleted without approval.

## PHASE I - ESTABLISH SPECIFIC CONTENT

### Written Component

1. Administer Scoreable Units to available test developers one at a time. These informal administrations will identify items and Scoreable Units in need of major revision. Revise Scoreable Units in accordance with recommendations of the test developers. (A prototype form for this step is provided on p. 63 .)

2. Test all Scoreable Units with five experts. Conduct one-on-one tryout on experts to confirm that the masters of a task can consistently pass the items of a Scoreable Unit derived from the task and to confirm the acceptability of the Scoreable Unit as a measure of ability to perform the task. Different groups of experts may need to be assembled to cover all Scoreable Units.

a. Select experts by first providing soldiers with a detailed description of the task that specifies the task conditions and standards, and then asking them to answer a self-rating question. Two prototype self-rating forms are provided. Select the question most appropriate for the set of tasks and have the soldiers answer that question.

How well can you perform the task?
0. Not familiar with the task.
1. Not very well.
2. Fairly well.
3. Very well.

To perform the complete task, how much technical guidance would you require from someone who knows how to perform the task?
0. Not familiar with the task.
1. Lots.
2. Some.
3. None.

For validating written Scoreable Units, experts are soldiers who select alternative 3, "Very well," or "None."

b. Test one expert at a time. Each expert is tested on the Scoreable Unit to confirm the adequacy of the scoring key. After each expert evaluates the Scoreable Unit necessary revisions are made to the Scoreable Unit prior to tryout on the next expert.

c. Require that at least 80 percent of the experts agree on the scoring key. (A summary form to be used for ITEG submittal is provided on p. 54, a, b.)

d. Determine acceptability of the Scoreable Unit to the experts. Determine the criticality, fairness, and completeness of the Scoreable Unit by having the experts review the task analysis and the specification of key and essential behaviors, and complete question sheet 1 and 3 (pp. 44 & 46). Require that at least 80 percent of the five experts answer yes to each question. (A summary form to be used for ITEG submittal is located on p. 53, a, b.)

e. Revise item(s) and/or Scoreable Units as required.

3. Assemble the written component to include:

(a) the Scoreable Units of the written component;

(b) summary of the tryouts on experts (use the summary submittal forms);

(c) task analysis specifying the key and essential steps for each task;

(d) all administrative instructions;

(e) the SQT Notice (identifying that portion specific to the written component)

4. Submit the written component and all other requested documentation to ITEG for review and approval.

5. Revise the written component as requested by ITEG. Obtain final approval from ITEG.

Once the written component has been approved by ITEG the content of each item within each Scoreable Unit is fixed and cannot be changed without approval from ITEG. Items found to be unsatisfactory during Phase II Validation will be revised to improve them, but not to the extent of changing content. Unsatisfactory items cannot be deleted without approval.

## PHASE II - ESTABLISH VALIDITY

### Hands-on Component

1. Try out each Scoreable Unit locally on 10 representative soldiers with 4 raters. The raters must be adequately and uniformly prepared to perform their function. A session where the raters practice administering and scoring their Scoreable Unit will help prepare them to score more accurately. Each Scoreable Unit must be administered to at least 10 soldiers, and the performance of each soldier must be scored independently by an administrator and three other raters.

a. Compute the agreement between pairs of raters for the Performance Measures of the Scoreable Unit. Require at least 80 percent agreement among raters for each Performance Measure. Detailed discussion of how to compute rater agreement is provided in the PHASE I. Hands-on Component section. The following is a specific example of a case in which sufficient agreement is obtained (at least 80 percent agreement) and a case where sufficient agreement is not obtained (less than 80 percent agreement). (A summary form to be used for ITEG submittal is provided on p. 57 ).

| SOLDIERS | RATERS | | | | | |
|---|---|---|---|---|---|---|
| | ADM | 1 | 2 | 4 | A | D |
| 1 | 1 | 1 | 1 | 1 | 6 | 0 |
| 2 | 1 | 1 | 1 | 1 | 6 | 0 |
| 3 | 0 | 1 | 0 | 0 | 3 | 3 |
| 4 | 1 | 0 | 1 | 1 | 3 | 3 |
| 5 | 0 | 0 | 1 | 1 | 2 | 4 |
| 6 | 0 | 0 | 0 | 0 | 6 | 0 |
| 7 | 1 | 1 | 1 | 1 | 6 | 0 |
| 8 | 1 | 1 | 1 | 1 | 6 | 0 |
| 9 | 1 | 1 | 1 | 1 | 6 | 0 |
| 10 | 0 | 0 | 0 | 0 | 6 | 0 |
| | | | | | 50 | 10 |

% Agreement between pairs of raters = {50 ÷ (50 + 10)} x 100 = 83%

Therefore, there is sufficient agreement on this Performance Measure.

| EXAMINEES | RATERS | | | | | |
|---|---|---|---|---|---|---|
| | ADM | 1 | 2 | 3 | A | D |
| 1 | 1 | 1 | 0 | 1 | 3 | 3 |
| 2 | 0 | 0 | 1 | 0 | 3 | 3 |
| 3 | 1 | 0 | 0 | 1 | 2 | 4 |
| 4 | 0 | 0 | 0 | 0 | 6 | 0 |
| 5 | 0 | 1 | 0 | 1 | 2 | 4 |
| 6 | 1 | 1 | 1 | 0 | 3 | 3 |
| 7 | 1 | 1 | 1 | 1 | 6 | 0 |
| 8 | 0 | 1 | 0 | 0 | 3 | 3 |
| 9 | 0 | 0 | 1 | 0 | 3 | 3 |
| 10 | 1 | 1 | 1 | 1 | 6 | 0 |
| | | | | | 37 | 23 |

% Agreement between pairs of Raters = {37 ÷ (37 + 23)} x 100 = 61%

Therefore, there is not sufficient agreement on this Performance Measure.

b. Determine acceptability to soldiers and raters. The 10 soldiers must complete question sheet 4 (p. 47 ); eighty percent must indicate acceptance of each Scoreable Unit as a fair test of their ability. The 4 raters of each Scoreable Unit must complete question sheet 2; seventy-five percent must indicate acceptance of each Scoreable Unit as valid, fair, and feasible. (Summary forms to be used for ITEG submittal are provided on p.55-56.)

c. Revise Performance Measure(s) and/or Scoreable Unit(s) that do not satisfy the rater agreement criterion or the acceptability criterion. The revision cannot change the content of a Performance Measure or Scoreable Unit unless ITEG approves.

d. Retest on 10 representative soldiers with 4 raters any Scoreable Unit that was found unsatisfactory and required revision. Continue to retest until both rater agreement and acceptability criteria are satisfied.

e. Judge administrative feasibility of the entire hands-on component on the basis of this tryout; acceptability question sheets may provide indications of feasibility.

2. Try out hands-on component with representative TCO, soldiers and raters to determine administrative feasibility.

a. Select an appropriate unit from FORSCOM and Army Reserve or National Guard. These units will be selected jointly by the TDA and ITEG through the major command. The units selected should be those having the maximum number of soldiers available for testing.

b. Send a package to the TCO that contains all necessary materials including instructions for setting up the test site and conducting the

hands-on component. The package should contain enough materials to allow testing the maximum number of soldiers in two sessions. One session should be conducted in the morning, and if necessary, another session should be conducted in the afternoon. Moreover, the TDA must send an observer to determine administrative feasibility of the hands-on component and to determine how many soldiers can be tested per hour for given amounts of resources (number of examiners and amounts of equipment).

c. Administer the hands-on component to at least 10, and preferably up to 50, representative soldiers to determine administrative feasibility under operational testing conditions.

d. Conduct after-action interview of unit personnel to include test administrator, raters, soldiers and any other appropriate individuals.

e. Assess acceptability to unit soldiers and raters. Use question sheets 2 and 4 during this step. (Summary forms to be used for ITEG submittal are located on pp. 55-56.)

f. Revise hands-on component as required to insure administrative feasibility.

3. Assemble hands-on component to include a summary of tryout results.

4. Submit hands-on component to ITEG for review and approval.

5. Revise the hands-on component in accordance with ITEG instructions.

6. Assemble final hands-on component.

7. Submit final hands-on component to ITEG for operational administration.

PHASE II - ESTABLISH VALIDITY

Written Component

1. Validate at least two written Scoreable Units against a performance test of the corresponding tasks. Comparing Scoreable Unit and performance test performance will indicate the degree to which the written Scoreable Units are valid measures of task performance. (A two-page form to be used for ITEG submittal is provided on p. 58,a .)

a. Two or more experts develop administrative and scoring procedures by administering the performance test to each other or another individual.

b. Administer both the performance test and the set of written items based on the task to at least five soldiers who are expected to be experts and five who are expected to be novices.

c. Require that at least 80 percent of the expert group pass the performance test; and require that a greater proportion of the experts than the novices pass the performance test.

d. Proceed to 1 e.if the requirements stated in 1 c.are satisfied. If the requirements in 1 c. are not satisfied either revise the written items, select new expert and novice groups, or both. Recall that any change to the items in a Scoreable Unit cannot change its original content without approval from ITEG. Continue the process until at least 80 percent of the expert group pass the performance test and a greater proportion of experts than novices pass the performance test.

**e.** Determine whether or not agreement between the performance test and each of the written items is satisfactory. For each item in the Scoreable Unit, prepare a table as shown below. An Agreement Index is then calculated between the performance test and each written item.

PERFORMANCE TEST

| ITEM | Pass | Fail |
|---|---|---|
| Pass | a = Number of soldiers who Pass performance test and Pass written item | b = Number of soldiers who Fail performance test and Pass written item |
| Fail | c = Number of soldiers who Pass performance test and Fail written item | d = Number of soldiers who Fail performance test and Fail written item |

Agreement Index = ad - bc

If the Agreement Index calculated equals any positive number, then the item is satisfactory. If the Agreement Index calculated equals zero or is negative, the item is unsatisfactory and needs revision

Consider the following example of a four item Scoreable Unit:

PERFORMANCE TEST

| ITEM | | Pass | Fail |
|---|---|---|---|
| 1 | Pass | 5 | 0 |
| | Fail | 0 | 5 |

Agreement Index = (5)(5) - (0)(0) = 25
Item is satisfactory.

PERFORMANCE TEST

| ITEM | | Pass | Fail |
|---|---|---|---|
| 2 | Pass | 4 | 2 |
| | Fail | 1 | 3 |

Agreement Index = (4)(3) - (2)(1) = 10
Item is satisfactory.

PERFORMANCE TEST

| ITEM | | Pass | Fail |
|---|---|---|---|
| 3 | Pass | 3 | 2 |
| | Fail | 2 | 3 |

Agreement Index = (3)(3) - (2)(2) = 5
Item is satisfactory.

PERFORMANCE TEST

| ITEM | | Pass | Fail |
|---|---|---|---|
| 4 | Pass | 3 | 3 |
| | Fail | 2 | 2 |

Agreement Index = (3)(2) - (3)(2) = 0
Item is unsatisfactory.

The Agreement Indices between the performance test and items 1, 2, and 3 are positive; therefore these items are satisfactory. Since the Agreement Index for item 4 is zero, it is unsatisfactory. Item 4 must be examined for possible revision based on the same content.

f. Repeat the procedure presented in 1a - 1e for the other Scoreable Unit to be validated against a performance test of the corresponding task.

2. Try out each written Scoreable Unit on 30 soldiers.

a. Obtain samples of soldiers for Phase II validation of written Scoreable Units. The samples may be representative soldiers, if they are available, or a mixture of AIT students and NCOs. The important consideration is to obtain a spread of ability to perform the tasks. An ideal mixture of the sample without representative soldiers is that one-third of the soldiers be AIT students in the first 2-3 weeks of the course, one-third of the soldiers be AIT students about to graduate from the course, and one-third of the soldiers be NCOs with relevant field experience. The validation procedures for both types of samples of soldiers are the same.

b. Administer self-ratings of ability to perform the tasks covered by the Scoreable Units. The self-ratings are used to identify groups of experts and novices. Experts are those soldiers who rate themselves high on ability to perform the task and novices are those soldiers who rate themselves low. A soldier may be in the expert group for one task and in the novice group for another task. The tasks should be described in sufficient detail so that the soldiers can provide accurate self-ratings. Provide each soldier with a detailed description of the task that specifies the task conditions and standards, and then asks each soldier to answer a self-rating question. Two prototype formats are suggested.

(1) How well can you perform the task?
0. Not familiar with the task.
1. Not very well.
2. Fairly well.
3. Very well.

(2) To perform the complete task, how much technical guidance would you require from someone who knows how to perform the task?
0. Not familiar with the task.
1. Lots.
2. Some.
3. None.

For validating written Scoreable Units, those who respond 0 and 1 are called novices; and those who respond 2 and 3 are called experts.

c. Administer the Scoreable Units to the experts and novices after the ratings have been obtained. Identify groups of experts and novices on the basis of the self-ratings. Exercise caution in interpreting data for those Scoreable Units for which fewer than fifteen self-rated experts have been identified. In these cases even one inaccurate expert self-rating can have a large influence on the value of the Agreement Index. Test the Scoreable Unit on additional self-rated experts until a total of at least fifteen is obtained.

d. Compute the agreement between self-rating (expert or novice) and each item (pass or fail) of the Scoreable Unit. (A summary form to be used for ITEG submitted is provided on p. 60, a, b.)

(1) Determine the Agreement Index between self-rating (expert or novice) and each item (pass or fail) of the Scoreable Unit. This Agreement Index indicates how well an item reflects mastery on the task tested by the Scoreable Unit. For each item in the Scoreable Unit prepare a table as shown below. Examples of how to compute an Agreement Index between self-rating and items are provided in paragraphs d(3) and d(4). below:

| | SELF-RATING | |
|---|---|---|
| ITEM | Expert | Novice |
| Pass | a = Number of soldiers who rate themselves as Experts and pass item | b = Number of soldiers who rate themselves as Novices and pass item |
| Fail | c = Number of soldiers who rate themselves as Experts and fail item | d = Number of soldiers who rate themselves as Novices and fail item |

Agreement Index = ad - bc

(2) Determine if more experts pass than fail each item. The number of experts passing an item should be greater than the number of experts failing an item, that is, a is greater than c. If this relationship is not satisfied, the item may be too difficult when operationally administered to representative soldiers.

(3) Consider the following example of a four item Scoreable Unit.

SCORES OF EXPERTS AND NOVICES ON A FOUR ITEM SCOREABLE UNIT

| | ITEMS | | | | |
|---|---|---|---|---|---|
| EXPERTS | 1 | 2 | 3 | 4 | Total |
| Soldier 1 | 1 | 1 | 1 | 1 | 4 |
| Soldier 2 | 1 | 1 | 1 | 1 | 4 |
| Soldier 3 | 1 | 0 | 1 | 1 | 3 |
| Soldier 4 | 1 | 1 | 1 | 1 | 4 |
| Soldier 5 | 0 | 1 | 1 | 1 | 3 |
| Soldier 6 | 0 | 1 | 0 | 1 | 2 |
| Soldier 7 | 0 | 0 | 1 | 1 | 2 |
| Soldier 8 | 0 | 1 | 1 | 1 | 3 |
| Soldier 9 | 0 | 1 | 0 | 1 | 2 |
| Soldier 10 | 0 | 0 | 1 | 1 | 2 |
| Soldier 11 | 1 | 1 | 1 | 0 | 3 |
| Soldier 12 | 1 | 1 | 1 | 1 | 4 |
| Soldier 13 | 0 | 1 | 1 | 1 | 3 |
| Number Passing | 6 | 10 | 11 | 12 | 39 Checks |
| Number Failing | 7 | 3 | 2 | 1 | |

| NOVICES | 1 | 2 | 3 | 4 | Total |
|---|---|---|---|---|---|
| Soldier 14 | 1 | 0 | 0 | 1 | 2 |
| Soldier 15 | 1 | 0 | 1 | 1 | 3 |
| Soldier 16 | 1 | 0 | 1 | 1 | 3 |
| Soldier 17 | 1 | 0 | 0 | 1 | 2 |
| Soldier 18 | 1 | 0 | 0 | 1 | 2 |
| Soldier 19 | 0 | 0 | 0 | 1 | 1 |
| Soldier 20 | 1 | 0 | 0 | 1 | 2 |
| Soldier 21 | 0 | 0 | 1 | 0 | 1 |
| Soldier 22 | 0 | 0 | 0 | 1 | 1 |
| Soldier 23 | 0 | 0 | 0 | 0 | 0 |
| Soldier 24 | 1 | 0 | 1 | 1 | 3 |
| Soldier 25 | 1 | 0 | 0 | 1 | 2 |
| Soldier 26 | 1 | 1 | 0 | 0 | 2 |
| Soldier 27 | 1 | 0 | 0 | 0 | 1 |
| Soldier 28 | 0 | 0 | 0 | 0 | 0 |
| Soldier 29 | 0 | 1 | 1 | 0 | 2 |
| Soldier 30 | 0 | 0 | 0 | 0 | 0 |
| Number Passing | 10 | 2 | 5 | 10 | 27 Checks |
| Number Failing | 7 | 15 | 12 | 7 | |

(a) Sort experts from novices on the basis of their self-ratings; record each soldier's performance on each item; record a "1" for each item passed and a "0" for each item failed.

(b) Count the total number of items each expert passed. (These scores are shown in the last column labelled "Total.")

(c) Count the number of experts who passed and failed each item. (These numbers are recorded in the rows labelled "Number Passing" and "Number Failing.") The sum of the Number Passing and the Number Failing for each item must equal the number of experts. (If an item in a Scoreable Unit is omitted, count that item as failed.)

(d) Check the accuracy of the counts by summing the Total column and summing the Number Passing row; these numbers must be the same.

(e) Repeat steps (b), (c), and (d) for novices; the Number Passing plus Number Failing in step (c) must equal the number of novices.

(f) Compare self-rating and item performance as shown in the following two by two tables. Soldiers' performance (pass or fail) on items should agree with their self-rating on the task. This will be indicated by a positive Agreement Index.

SELF-RATING

AGREEMENT INDEX

| ITEM | | Expert | Novice |
|---|---|---|---|
| 1 | Pass | a = 6 | b = 10 |
| | Fail | c = 7 | d = 7 |

6(7) - 10(7) = -28

| ITEM | | Expert | Novice |
|---|---|---|---|
| 2 | Pass | 10 | 2 |
| | Fail | 3 | 15 |

10(15) - 2(3) = 144

| ITEM | | Expert | Novice |
|---|---|---|---|
| 3 | Pass | 11 | 5 |
| | Fail | 2 | 12 |

11(12) - 5(2) = 122

| ITEM | | Expert | Novice |
|---|---|---|---|
| 4 | Pass | 12 | 10 |
| | Fail | 1 | 7 |

12(7) - 10(1) = 74

The Agreement Index for item 1 is less than zero; therefore, the self-rating Agreement Index is unsatisfactory for item 1. The self-rating Agreement Index for items 2, 3, and 4 is positive; these three items are satisfactory with respect to the requirement that items agree with self-rating.

(g) Compare the number of experts passing and failing each item. More experts must pass than fail each item (a > c). Since fewer experts passed than failed item 1, it is unsatisfactory with respect to this requirement. Since more experts passed than failed items 2, 3, and 4; these three items are satisfactory according to this requirement.

(4) Consider the following example of a five item Scoreable Unit.

SCORES OF EXPERTS AND NOVICES ON A FIVE ITEM SCOREABLE UNIT

| | ITEMS | | | | | |
|---|---|---|---|---|---|---|
| EXPERTS | 1 | 2 | 3 | 4 | 5 | Total |
| Soldier 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| Soldier 2 | 1 | 1 | 1 | 1 | 1 | 5 |
| Soldier 3 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 4 | 1 | 1 | 1 | 0 | 0 | 3 |
| Soldier 5 | 1 | 0 | 1 | 1 | 0 | 3 |
| Soldier 6 | 1 | 1 | 0 | 1 | 0 | 3 |
| Soldier 7 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 8 | 1 | 1 | 1 | 0 | 0 | 3 |
| Soldier 9 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 10 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 11 | 0 | 1 | 0 | 1 | 1 | 3 |
| Soldier 12 | 0 | 1 | 0 | 1 | 1 | 3 |
| Soldier 13 | 0 | 1 | 0 | 0 | 1 | 2 |
| Soldier 14 | 0 | 0 | 0 | 0 | 1 | 1 |
| Soldier 15 | 0 | 0 | 0 | 1 | 1 | 2 |
| Soldier 16 | 1 | 0 | 0 | 0 | 0 | 1 |
| Number Passing | 11 | 12 | 9 | 11 | 7 | 50 |
| Number Failing | 5 | 4 | 7 | 5 | 9 | |

| | ITEMS | | | | | |
|---|---|---|---|---|---|---|
| NOVICES | 1 | 2 | 3 | 4 | 5 | Total |
| Soldier 17 | 0 | 1 | 1 | 1 | 0 | 3 |
| Soldier 18 | 1 | 0 | 0 | 0 | 1 | 2 |
| Soldier 19 | 0 | 0 | 0 | 0 | 0 | 0 |
| Soldier 20 | 0 | 1 | 0 | 1 | 0 | 2 |
| Soldier 21 | 0 | 0 | 1 | 0 | 1 | 2 |
| Soldier 22 | 0 | 0 | 1 | 0 | 0 | 1 |
| Soldier 23 | 0 | 0 | 1 | 1 | 0 | 2 |
| Soldier 24 | 0 | 1 | 0 | 0 | 1 | 2 |
| Soldier 25 | 1 | 0 | 0 | 1 | 1 | 3 |
| Soldier 26 | 0 | 0 | 1 | 0 | 1 | 2 |
| Soldier 27 | 1 | 0 | 0 | 1 | 1 | 3 |
| Soldier 28 | 1 | 1 | 1 | 0 | 1 | 4 |
| Soldier 29 | 0 | 1 | 1 | 1 | 1 | 4 |
| Soldier 30 | 0 | 1 | 1 | 0 | 1 | 3 |
| Number Passing | 4 | 6 | 8 | 6 | 9 | 33 |
| Number Failing | 10 | 8 | 6 | 8 | 5 | |

(a) Sort experts from novices on the basis of their self-ratings; record each soldier's performance on each item; record a "1" for each item passed and a "0" for each item failed.

(b) Count the total number of items each expert passed. (These scores are shown in the last column labelled "Total.")

(c) Count the number of experts who passed and failed each item. (These numbers are recorded in the rows labelled "Number Passing" and "Number Failing.") The sum of the Number Passing and the Number Failing for each item must equal the number of experts. (If an item in a Scoreable Unit is omitted, count that item as failed.)

(d) Check the accuracy of the counts by summing the Total Column and summing the Number Passing row; these numbers must be the same.

(e) Repeat steps (b), (c), and (d) for novices; the Number Passing plus Number Failing in step (c) must equal the number of novices.

(f) Compare self-rating and item performance as shown in the following two by two tables. Soldiers' performance (pass or fail) on items should agree with their self-ratings on the task. This will be indicated by a positive Agreement Index.

SELF-RATING

AGREEMENT INDEX
$ad - bc > 0$

| ITEM 1 | | Expert | Novice |
|---|---|---|---|
| | Pass | a = 11 | b = 4 |
| | Fail | c = 5 | d = 10 |

$11(10) - 4(5) = 90$

| ITEM 2 | | Expert | Novice |
|---|---|---|---|
| | Pass | 12 | 6 |
| | Fail | 4 | 8 |

$12(8) - 6(4) = 72$

| ITEM 3 | | Expert | Novice |
|---|---|---|---|
| | Pass | 9 | 8 |
| | Fail | 7 | 6 |

$9(6) - 8(7) = -2$

| ITEM 4 | | Expert | Novice |
|---|---|---|---|
| | Pass | 11 | 6 |
| | Fail | 5 | 8 |

$11(8) - 6(5) = 58$

| ITEM 5 | | Expert | Novice |
|---|---|---|---|
| | Pass | 7 | 9 |
| | Fail | 9 | 5 |

$7(5) - 9(9) = -46$

The Agreement Index for items 3 and 5 is less than zero; while that for items 1, 2, and 4 is positive. Therefore, items 3 and 5 are unsatisfactory with respect to this requirement.

(g) Compare the number of experts passing and failing each item. More experts passed than failed items 1, 2, 3, and 4; however, more experts failed than passed item 5. Therefore, item 5 is unsatisfactory with respect to this requirement.

e. Compute the item-Scoreable Unit agreement for each Scoreable Unit. If a Scoreable Unit in the Written Component consists of four or fewer items, then obtain the extent of agreement between all pairs of items in the Scoreable Unit. If a Scoreable Unit in the Written Component consists of five or more items, then obtain the extent of agreement between each item and the total score on the Scoreable Unit. (A form to be used for ITEG submittal is provided on p.61,a,b. Additional forms that the TDA may find useful in performing the item analysis are provided on pp. 64-65.)

(1) Scoreable Units with four or fewer items.

(a) Compute the Agreement Indices between all possible pairs of items from a Scoreable Unit. The following table is a general illustration of a two by two table:

| | | ITEM 1 | |
|---|---|---|---|
| | | Pass | Fail |
| ITEM 2 | Pass | a = Number who Pass Item 1 and Pass Item 2 | b = Number who Fail Item 1 and Pass Item 2 |
| | Fail | c = Number who Pass Item 1 and Fail Item 2 | d = Number who Fail Item 1 and Fail Item 2 |

(b) Consider the four item Scoreable Unit presented in paragraph d.(3) (p.22-25 ); the following table lists the performance of thirty soldiers. The expert-notice distinction has been deleted because it is not used in this evaluation of the Scoreable Units. The following is a description of how to evaluate the four item Scoreable Unit.

| | ITEMS | | | | |
|---|---|---|---|---|---|
| SOLDIERS | 1 | 2 | 3 | 4 | Total |
| Soldier 1 | 1 | 1 | 1 | 1 | 4 |
| Soldier 2 | 1 | 1 | 1 | 1 | 4 |
| Soldier 3 | 1 | 0 | 1 | 1 | 3 |
| Soldier 4 | 1 | 1 | 1 | 1 | 4 |
| Soldier 5 | 0 | 1 | 1 | 1 | 3 |
| Soldier 6 | 0 | 1 | 0 | 1 | 2 |
| Soldier 7 | 0 | 0 | 1 | 1 | 2 |
| Soldier 8 | 0 | 1 | 1 | 1 | 3 |
| Soldier 9 | 0 | 1 | 0 | 1 | 2 |
| Soldier 10 | 0 | 0 | 1 | 1 | 2 |
| Soldier 11 | 1 | 1 | 1 | 0 | 3 |
| Soldier 12 | 1 | 1 | 1 | 1 | 4 |
| Soldier 13 | 0 | 1 | 1 | 1 | 3 |
| Soldier 14 | 1 | 0 | 0 | 1 | 2 |
| Soldier 15 | 1 | 0 | 1 | 1 | 3 |
| Soldier 16 | 1 | 0 | 1 | 1 | 3 |
| Soldier 17 | 1 | 0 | 0 | 1 | 2 |
| Soldier 18 | 1 | 0 | 0 | 1 | 2 |
| Soldier 19 | 0 | 0 | 0 | 1 | 1 |
| Soldier 20 | 1 | 0 | 0 | 1 | 2 |
| Soldier 21 | 0 | 0 | 1 | 0 | 1 |
| Soldier 22 | 0 | 0 | 0 | 1 | 1 |
| Soldier 23 | 0 | 0 | 0 | 0 | 0 |
| Soldier 24 | 1 | 0 | 1 | 1 | 3 |
| Soldier 25 | 1 | 0 | 0 | 1 | 2 |
| Soldier 26 | 1 | 1 | 0 | 0 | 2 |
| Soldier 27 | 1 | 0 | 0 | 0 | 1 |
| Soldier 28 | 0 | 0 | 0 | 0 | 0 |
| Soldier 29 | 0 | 1 | 1 | 0 | 2 |
| Soldier 30 | 0 | 0 | 0 | 0 | 0 |
| Number Passing | 16 | 12 | 16 | 22 | |
| Number Failing | 14 | 18 | 14 | 8 | |

(c) Prepare a two by two table for each pair of items.

Consider item 1 and item 2. Count the total number of soldiers who: (a) passed both items 1 and 2, (b) passed item 1 and failed item 2, (c) failed item 1 and passed item 2, and (d) failed both items 1 and 2. For example in the above table, solder 1 passed both item 1 and item 2; soldier 3 passed item 1 and failed item 2; soldier 5 failed item 1 and passed item 2; and soldier 7 failed both item 1 and item 2. Six soldiers passed item 1 and passed item 2. Ten soldiers passed item 1 and failed item 2. Six soldiers failed item 1 and passed item 2. Eight soldiers failed item 1 and failed item 2. This may be expressed in a two by two table as follows:

ITEM 2

| ITEM 1 | | Pass | Fail | Total |
|---|---|---|---|---|
| | Pass | a = 6 | b = 10 | 16 |
| | Fail | c = 6 | d = 8 | 14 |
| | Total | 12 | 18 | 30 |

AGREEMENT INDEX
$ad - bc > 0$

$6(8) - 10(6) = -12$

A similar procedure is followed for the other item pair comparisons. In the case of items 1 and 3, count the total number of soldiers who passed both item 1 and item 3, passed item 1 and failed item 3, failed item 1 and passed item 3, and failed both item 1 and item 3. Nine soldiers passed item 1 and passed item 3, 7 passed item 1 and failed item 3, 7 failed item 1 and passed item 3, and 7 failed both item 1 and item 3. This may be expressed in a two by two table as follows:

ITEM 3

| ITEM 1 | Pass | Fail | Total |
|---|---|---|---|
| Pass | 9 | 7 | 16 |
| Fail | 7 | 7 | 14 |
| Total | 16 | 14 | 30 |

AGREEMENT INDEX

9(7) - 7(7) = 14

ITEM 4

| ITEM 1 | Pass | Fail | Total |
|---|---|---|---|
| Pass | 13 | 3 | 16 |
| Fail | 9 | 5 | 14 |
| Total | 22 | 8 | 30 |

13(5) - 3(9) = 38

ITEM 3

| ITEM 2 | Pass | Fail | Total |
|---|---|---|---|
| Pass | 9 | 3 | 12 |
| Fail | 7 | 11 | 18 |
| Total | 16 | 14 | 30 |

9(11) - 3(7) = 78

ITEM 4

| ITEM 2 | Pass | Fail | Total |
|---|---|---|---|
| Pass | 9 | 3 | 12 |
| Fail | 13 | 5 | 18 |
| Total | 22 | 8 | 30 |

9(5) - 3(13) = 6

ITEM 4

| ITEM 3 | Pass | Fail | Total |
|---|---|---|---|
| Pass | 13 | 3 | 16 |
| Fail | 9 | 5 | 14 |
| Total | 22 | 8 | 30 |

13(5) - 3(9) = 38

The Agreement Index is less than zero for item pair 1 and 2. Agreement Indices are greater than zero for all other item pairs.

(2) Scoreable Units with five or more items.

(a) Compare items to the total score on the Scoreable Unit. Consider the five item Scoreable Unit presented in paragraph d(4) (p. 25-28). The following is a description of how to evaluate the Scoreable Unit.

(b) Prepare a table which indicates the number of soldiers (experts and novices combined) who passed 0 items, 1 item, 2 items, 3 items, 4 items and 5 items. (If there were more items in the Scoreable Unit, then the table would have more columns.)

| Items passed | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Number of Soldiers | 1 | 3 | 8 | 10 | 6 | 2 |

(c) Determine high and low scoring groups by dividing the thirty soldiers into two groups that are as close as possible to the same size. In this example, the high scoring group contains 18 soldiers who passed 3, 4, or 5 items. The low scoring group contains 12 soldiers who passed 0, 1, or 2 items. This split resulted in two groups that were as close as possible to the same size.

The following table presents the thirty soldiers by high and low scoring groups.

ITEMS

| HIGH | 1 | 2 | 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|
| Soldier 1 | 1 | 1 | 1 | 1 | 1 | 5 |
| Soldier 2 | 1 | 1 | 1 | 1 | 1 | 5 |
| Soldier 3 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 4 | 1 | 1 | 1 | 0 | 0 | 3 |
| Soldier 5 | 1 | 0 | 1 | 1 | 0 | 3 |
| Soldier 6 | 1 | 1 | 0 | 1 | 0 | 3 |
| Soldier 7 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 8 | 1 | 1 | 1 | 0 | 0 | 3 |
| Soldier 9 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 10 | 1 | 1 | 1 | 1 | 0 | 4 |
| Soldier 11 | 0 | 1 | 0 | 1 | 1 | 3 |
| Soldier 12 | 0 | 1 | 0 | 1 | 1 | 3 |
| Soldier 17 | 0 | 1 | 1 | 1 | 0 | 3 |
| Soldier 25 | 1 | 0 | 0 | 1 | 1 | 3 |
| Soldier 27 | 1 | 0 | 0 | 1 | 1 | 3 |
| Soldier 28 | 1 | 1 | 1 | 0 | 1 | 4 |
| Soldier 29 | 0 | 1 | 1 | 1 | 1 | 4 |
| Soldier 30 | 0 | 1 | 1 | 0 | 1 | 3 |
| Number passing | 13 | 15 | 13 | 14 | 9 | 64 checks |
| Number failing | 5 | 3 | 5 | 4 | 9 | |

ITEMS

| LOW | 1 | 2 | 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|
| Soldier 13 | 0 | 1 | 0 | 0 | 1 | 2 |
| Soldier 14 | 0 | 0 | 0 | 0 | 1 | 1 |
| Soldier 15 | 0 | 0 | 0 | 1 | 1 | 2 |
| Soldier 16 | 1 | 0 | 0 | 0 | 0 | 1 |
| Soldier 18 | 1 | 0 | 0 | 0 | 1 | 2 |
| Soldier 19 | 0 | 0 | 0 | 0 | 0 | 0 |
| Soldier 20 | 0 | 1 | 0 | 1 | 0 | 2 |
| Soldier 21 | 0 | 0 | 1 | 0 | 1 | 2 |
| Soldier 22 | 0 | 0 | 1 | 0 | 0 | 1 |
| Soldier 23 | 0 | 0 | 1 | 1 | 0 | 2 |
| Soldier 24 | 0 | 1 | 0 | 0 | 1 | 2 |
| Soldier 26 | 0 | 0 | 1 | 0 | 1 | 2 |
| Number passing | 2 | 3 | 4 | 3 | 7 | 19 checks |
| Number failing | 10 | 9 | 8 | 9 | 5 | |

Determine the Agreement Index between scoring group (high or low) and each item (pass or fail) of the Scoreable Unit. Count for each item the number of high and low scorers who passed and failed the item. (These numbers are already indicated in the table.) The following tables are used to obtain the Agreement Indices.

| | | SCORING GROUP | | AGREEMENT INDEX |
|---|---|---|---|---|
| | | High | Low | |
| ITEM 1 | Pass | 13 | 2 | 13(10) - 2(5) = 120 |
| | Fail | 5 | 10 | |
| | | High | Low | |
| ITEM 2 | Pass | 15 | 3 | 15(9) - 3(3) = 126 |
| | Fail | 3 | 9 | |
| | | High | Low | |
| ITEM 3 | Pass | 13 | 4 | 13(8) - 4(5) = 84 |
| | Fail | 5 | 8 | |
| | | High | Low | |
| ITEM 4 | Pass | 14 | 3 | 14(9) - 3(4) = 114 |
| | Fail | 4 | 9 | |
| | | High | Low | |
| ITEM 5 | Pass | 9 | 7 | 9(5) - 7(9) = -18 |
| | Fail | 9 | 5 | |

(e) Evaluate items in Scoreable Unit with 5 or more items by computing the item-Scoreable Unit agreement. In the above example of a 5 item Scoreable Unit, the Agreement Indices for items 1, 2, 3 and 4 are all greater than zero, indicating that these items are satisfactory with respect to item-Scoreable Unit agreement. The Agreement Index for item 5 is less than zero; therefore, item 5 is unsatisfactory with respect to item-Scoreable Unit agreement.

f. Evaluate the items within each Scoreable Unit. (A summary form to be used for ITEG submittal is located on p. 62, a, b)

(1) Identify those items found to be satisfactory and unsatisfactory with respect to self-rating (as determined in paragraph d).

(2) Identify those items found to be satisfactory and unsatisfactory with respect to item-Scoreable Unit agreement (as determined in paragraph e).

(3) Determine those items which are acceptable and unacceptable by combining the information obtained in (1) and (2); if an item is satisfactory in (1) and (2), it is acceptable in its present form. If an item is unsatisfactory in both (1) and (2), it is unacceptable in its present form and must be revised. If an item is unsatisfactory ir either (1) or (2), it must be reviewed to determine whether revision is required.

| ITEM-SCOREABLE UNIT AGREEMENT | SELF-RATING Satisfactory | Unsatisfactory |
|---|---|---|
| Satisfactory | ACCEPT | REVIEW |
| Unsatisfactory | REVIEW | REVISE |

ACCEPT an item means retain it in its present form. REVISE means change the item to correct deficiencies. REVIEW means consider all available information and then decide if and how to revise.

(a) Consider the example of the four item Scoreable Unit introduced previously. Item 1 was unsatisfactory with respect to both aspects of self-rating and item-Scoreable Unit agreement. Item 2 was satisfactory with respect to self-rating but not item-Scoreable Unit agreement. Items 3 and 4 were satisfactory with respect to both self-rating and item-Scoreable Unit agreement. This information is summarized in the table below.

| ITEM-SCOREABLE UNIT AGREEMENT | SELF-RATING Satisfactory | Unsatisfactory |
|---|---|---|
| Satisfactory | ACCEPT items 3, 4 | REVIEW no items |
| Unsatisfactory | REVIEW item 2 | REVISE item 1 |

Therefore, items 3 and 4 are acceptable in their present form. Item 1 is unacceptable in its present form and must be revised. Item 2 must be reviewed. A review of item 2 would probably suggest retaining item 2 in its present form. Item 2 was unsatisfactory with respect to item-

Scoreable Unit agreement because of its negative Agreement Index when paired with item 1. However, item 1 was found to be unacceptable with respect to both item-Scoreable Unit and item-self rating. Therefore, the negative Agreement Index between items 1 and 2, can probably be attributed to deficiencies in item 1.

(b) Consider the example of the five item Scoreable Unit. Item 5 was unsatisfactory with respect to both aspects of self-rating and item-Scoreable Unit agreement. Item 3 was unsatisfactory with respect to one aspect of self-rating but not item-Scoreable Unit agreement. Items 1, 2, and 4 were satisfactory with respect to both self-rating and item-Scoreable Unit agreement. This information is summarized in the table below.

| ITEM-SCOREABLE UNIT AGREEMENT | SELF-RATING | |
|---|---|---|
| | Satisfactory | Unsatisfactory |
| Satisfactory | ACCEPT items 1,2,4 | REVIEW item 3 |
| Unsatisfactory | REVIEW No items | REVISE item 5 |

Therefore, items 1, 2 and 4 are acceptable in their present form. Item 5 is unacceptable in its present form and must be revised. Item 3 must be reviewed. Item 3 was found to be unsatisfactory with respect to self-rating. Unless a reasonable explanation exists for this finding, item 3 must be reviewed for possible revision.

g. Determine acceptability to expert soldiers. For each Scoreable Unit at least 80 percent of the soldiers identified as experts on the task from which the Scoreable Unit was derived, must accept the Scoreable Unit as a fair test of their ability to perform on the job by answering "yes" on question sheet 5 (p. 48). Any Scoreable Unit accepted by less than 80 percent of the experts must be revised. (A summary form for ITEG submittal is provided at p. 59, a, b.).

h. Identify all items and Scoreable Units requiring revision. These include those items in Scoreable Units identified in f. during the evaluation process. If a Scoreable Unit was found unacceptable in g. to experts and has already had items identified as unacceptable in f., then correction of these items in the Scoreable Unit is sufficient. However, if a Scoreable Unit was found unacceptable in g., but had no items identified as unacceptable in f., then the entire Scoreable Unit must be re-examined to identify the source of the problem. Recall that any revision in an item cannot change the content covered in the original item.

3. Revise Scoreable Units with unacceptable items.

a. Develop a new form for each item found to be unacceptable.

b. Test revised items on 5 experts. Have the experts inspect both versions of the item (the unacceptable original version and the revised version). Have experts decide if both items have the same content and which version is better. Do not identify either version as the original

or revised. The experts also key each of the two versions of the item.

c. Require that at least 80 percent of the experts agree that the content is not changed. Require also that at least 80 percent of the experts agree on the scoring key of the new version of the item.

d. Identify all Scoreable Units where one-third or less of the items required revision. For these Scoreable Units no additional tryout is required; i.e., the expert evaluation conducted in b. is sufficient.

e. Try out the Scoreable Units where more than one-third of the items required revision on at least 20 soldiers. For these Scoreable Units such a large part of the Scoreable Unit was unacceptable that the expert tryout alone is not sufficient. The new version of the Scoreable Unit must be administered to at least 20 soldiers and the procedures described in 2a. - 2h. must be repeated; that is, obtain self-ratings, compute item-self rating and item-Scoreable Unit agreement, evaluate items, determine acceptability, and revise as required.

4. Try out any Written Component containing unique instructions with representative TCO and soldiers. If a Written Component contains group paced Scoreable Units, considerable use of technical manuals, simulators, or any type of materials or instructions that could result in feasibility problems, the TDA must try out the entire component on as large a group of representative soldiers as may be encountered during operational testing. For example, if slides are used as part of a

Scoreable Unit and detailed viewing is required, then the maximum viewing distance must be demonstrated prior to operational testing.

a. Try out entire Written Component using operational answer sheets and all necessary administrative instructions.

b. Determine administrative feasibility.

c. Determine if the entire component can be completed in less than four hours.

d. Identify Scoreable Units causing administrative difficulty or that do not provide standardized testing conditions for all soldiers.

e. Adjust the administrative instructions for operational administration or revise Scoreable Unit to correct for potential administrative problems. Any significant change in the Scoreable Unit requires confirmation by experts that the content has not been altered. If the Scoreable Unit is revised, follow the steps indicated in 3a. - 3e.

5. Assemble written component to include a summary of tryout results.

6. Submit written component to ITEG; revise as required.

7. Assemble final written component.

8. Submit final written component to ITEG for operational administration.

NAME _____

QUESTION SHEET 1

IDENTIFICATION OF ESSENTIAL AND KEY BEHAVIORS

| | Yes | No |
|---|---|---|
| 1. Is the task covered by the Scoreable Unit a critical job requirement at this skill level? | ___ | ___ |

Based on your experience in performing the task, and on your experience in watching other people perform the task, please answer questions 2 and 3, below.

2. Identify Essential Behaviors

Does the task analysis list all the Essential Behaviors (decisions or actions) necessary for task performance? ___ ___

If not, please specify which Essential Behaviors (decisions or actions) should be:

a. Added

Which one(s)?

b. Deleted

Which one(s)?

c. Revised

Which one(s), and how?

3. Identify Key Behaviors

Does the task analysis identify all the Key Behaviors (which have serious consequences to personnel or equipment, or are frequent sources of failure)? ___ ___

If not, please specify which Key Behaviors should be:

a. Added

Which one(s)?

b. Deleted

Which one(s)?

c. Revised

Which one(s), and how?

NAME _____

QUESTION SHEET 2

EXPERT AND RATER QUESTIONS FOR HANDS-ON SCOREABLE UNITS

Please answer the following questions for each Scoreable Unit immediately after it is administered.

| | Yes | No |
|---|---|---|
| 1. Is the task covered by the Scoreable Unit a critical job requirement at the skill level? | ___ | ___ |
| If not, why not? | | |
| 2. Does the Scoreable Unit provide a fair measure of job requirements? | ___ | ___ |
| If not, what changes are required? | | |
| a. Add Performance Measures? Which ones? | ___ | ___ |
| b. Delete Performance Measures? Which ones? | ___ | ___ |
| c. Modify Performance Measures? How? | ___ | ___ |
| d. Alter standards? How? | ___ | ___ |
| e. Clarify instructions? How? | ___ | ___ |
| f. Change test site or equipment requirements? How? | ___ | ___ |
| 3. Is the Scoreable Unit administratively feasible? | ___ | ___ |
| If not, what changes are required? | | |
| 4. Do you have any additional comments or observations on this Scoreable Unit? | ___ | ___ |
| If yes, indicate them below. | | |

NAME _____

QUESTION SHEET 3

EVALUATION OF WRITTEN SCOREABLE UNITS

**Each item should be based on a behavior (decision or action) essential to performing the task.**

| | Yes | No |
|---|---|---|
| 1. Does passing each item correspond to an Essential Behavior (decision or action) necessary for task performance? | ___ | ___ |

If not, please specify which items should be:

a. Added

Which one(s)?

b. Revised

Which one(s), and how?

| | | |
|---|---|---|
| 2. Do the items for each Key Behavior fully measure that point? (Key Behaviors have special consequences to personnel or equipment or are frequent sources of failure) | ___ | ___ |

If not, please specify which items should be:

a. Added

Which one(s)?

b. Revised

Which one(s), and how?

| | | |
|---|---|---|
| 3. Based on this Scoreable Unit, would you be confident that soldiers who answer the items correctly are able to perform the task? | ___ | ___ |

NAME _____

QUESTION SHEET 4

EXAMINEE QUESTION FOR HANDS-ON SCOREABLE UNITS

Do you accept this test as a fair measure of your ability to perform in your MOS?

| | Yes | No |
|---|---|---|
| Test 1 | ___ | ___ |
| Test 2 | ___ | ___ |
| Test 3 | ___ | ___ |
| etc. | ___ | ___ |

If not, please explain why.

NAME _____

QUSTION SHEET 5

EXAMINEE QUESTION FOR WRITTEN SCOREABLE UNITS

Do you accept this set of items as a fair measure of your ability to perform the task as it is described in the Soldier's Manual?

| | Yes | No |
|---|---|---|
| Set 1 | ___ | ___ |
| Set 2 | ___ | ___ |
| Set 3 | ___ | ___ |
| etc. | ___ | ___ |

If not, please explain why.

Phase I Hands-On Component

Summary of Acceptability to Experts
(Question Sheet 2)

Instructions: (1) Enter the number of experts on which the results are based in the parentheses next to each Scoreable Unit number.

(2) Enter for each Scoreable Unit the percent of experts responding YES to each question.

(3) Circle any entry less than 80 percent.

| Scoreable Unit | Questions 1 | 2 | 3 | Notes |
|---|---|---|---|---|
| 1 ( ) | | | | |
| 2 ( ) | | | | |
| 3 ( ) | | | | |
| 4 ( ) | | | | |
| 5 ( ) | | | | |
| 6 ( ) | | | | |
| 7 ( ) | | | | |
| 8 ( ) | | | | |
| 9 ( ) | | | | |
| 10 ( ) | | | | |
| 11 ( ) | | | | |
| 12 ( ) | | | | |
| 13 ( ) | | | | |
| 14 ( ) | | | | |
| 15 ( ) | | | | |
| 16 ( ) | | | | |

Phase I Hands-On Component

Summary of Acceptability to Raters
(Question Sheet 2)

Instructions: (1) Enter the percent of raters responding YES to questions 1, 2, and 3 for each Scoreable Unit.

(2) Circle any entry less than 75 percent.

| Scoreable Unit | Questions 1 | 2 | 3 |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |

Phase I Hands-On Component

Summary of Test Results on Experts

Instructions: (1) Enter the number of experts on which the results are based in the parentheses next to each Scoreable Unit number.

(2) Enter for each Scoreable Unit the percent of experts GO on the Scoreable Unit.

(3) Enter for each Scoreable Unit the percent of experts passing each Performance Measure.

(4) Circle any entry less than 80 percent.

| Scoreable Unit | % GO | % Passing Performance Measure | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 2 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 3 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 4 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 5 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 6 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 7 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 8 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 9 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 10 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 11 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 12 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 13 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 14 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 15 ( ) | | | | | | | | | | | | | | | | | | | | | |
| 16 ( ) | | | | | | | | | | | | | | | | | | | | | |

Phase I Hands-On Component

Summary of Tryout on Novices

Instructions: (1) Enter the number of novices on which the results are based on the parentheses next to each Scoreable Unit number.

(2) Enter the rater agreement for each Performance Measure in each Scoreable Unit.

(3) Circle any entry less than 80 percent.

| Scoreable Unit | Performance Measure | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1 ( ) | | | | | | | | | | | | | | | | | | | | |
| 2 ( ) | | | | | | | | | | | | | | | | | | | | |
| 3 ( ) | | | | | | | | | | | | | | | | | | | | |
| 4 ( ) | | | | | | | | | | | | | | | | | | | | |
| 5 ( ) | | | | | | | | | | | | | | | | | | | | |
| 6 ( ) | | | | | | | | | | | | | | | | | | | | |
| 7 ( ) | | | | | | | | | | | | | | | | | | | | |
| 8 ( ) | | | | | | | | | | | | | | | | | | | | |
| 9 ( ) | | | | | | | | | | | | | | | | | | | | |
| 10 ( ) | | | | | | | | | | | | | | | | | | | | |
| 11 ( ) | | | | | | | | | | | | | | | | | | | | |
| 12 ( ) | | | | | | | | | | | | | | | | | | | | |
| 13 ( ) | | | | | | | | | | | | | | | | | | | | |
| 14 ( ) | | | | | | | | | | | | | | | | | | | | |
| 15 ( ) | | | | | | | | | | | | | | | | | | | | |
| 16 ( ) | | | | | | | | | | | | | | | | | | | | |

Phase I Written Component

Summary of Acceptability to Experts
(Question Sheet 3)

Instructions: (1) Enter the number of experts on which the results are based in the parentheses next to each Scoreable Unit number.

(2) Enter for each Scoreable Unit the percent of experts responding YES to each question.

(3) Circle any entry less than 80 percent.

| Scoreable Unit | Questions 1 | 2 | 3 | Notes |
|---|---|---|---|---|
| 1 ( ) | | | | |
| 2 ( ) | | | | |
| 3 ( ) | | | | |
| 4 ( ) | | | | |
| 5 ( ) | | | | |
| 6 ( ) | | | | |
| 7 ( ) | | | | |
| 8 ( ) | | | | |
| 9 ( ) | | | | |
| 10 ( ) | | | | |
| 11 ( ) | | | | |
| 12 ( ) | | | | |
| 13 ( ) | | | | |
| 14 ( ) | | | | |
| 15 ( ) | | | | |
| 16 ( ) | | | | |

| Scoreable Unit | Questions 1 | 2 | 3 | Notes |
|---|---|---|---|---|
| 17 ( ) | | | | |
| 18 ( ) | | | | |
| 19 ( ) | | | | |
| 20 ( ) | | | | |
| 21 ( ) | | | | |
| 22 ( ) | | | | |
| 23 ( ) | | | | |
| 24 ( ) | | | | |
| 25 ( ) | | | | |
| 26 ( ) | | | | |
| 27 ( ) | | | | |
| 28 ( ) | | | | |
| 29 ( ) | | | | |
| 30 ( ) | | | | |
| 31 ( ) | | | | |
| 32 ( ) | | | | |
| 33 ( ) | | | | |
| 34 ( ) | | | | |
| 35 ( ) | | | | |
| 36 ( ) | | | | |
| 37 ( ) | | | | |
| 38 ( ) | | | | |
| 39 ( ) | | | | |
| 40 ( ) | | | | |
| 41 ( ) | | | | |

| Scoreable Unit | Questions 1 | 2 | 3 | Notes |
|---|---|---|---|---|
| 41 ( ) | | | | |
| 42 ( ) | | | | |
| 43 ( ) | | | | |
| 44 ( ) | | | | |
| 45 ( ) | | | | |
| 46 ( ) | | | | |
| 47 ( ) | | | | |
| 48 ( ) | | | | |
| 49 ( ) | | | | |
| 50 ( ) | | | | |

Phase I Written Component

Summary of Tryout on Experts

Instructions: (1) Enter the number of experts on which the results are based in the parentheses next to each Scoreable Unit number.

(2) Enter for each Scoreable Unit the percent of experts passing each item.

(3) Circle any entry less than 80 percent.

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 ( ) | | | | | | | | | | |
| 2 ( ) | | | | | | | | | | |
| 3 ( ) | | | | | | | | | | |
| 4 ( ) | | | | | | | | | | |
| 5 ( ) | | | | | | | | | | |
| 6 ( ) | | | | | | | | | | |
| 7 ( ) | | | | | | | | | | |
| 8 ( ) | | | | | | | | | | |
| 9 ( ) | | | | | | | | | | |
| 10 ( ) | | | | | | | | | | |
| 11 ( ) | | | | | | | | | | |
| 12 ( ) | | | | | | | | | | |
| 13 ( ) | | | | | | | | | | |
| 14 ( ) | | | | | | | | | | |
| 15 ( ) | | | | | | | | | | |
| 16 ( ) | | | | | | | | | | |
| 17 ( ) | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 ( ) | | | | | | | | | | |
| 19 ( ) | | | | | | | | | | |
| 20 ( ) | | | | | | | | | | |
| 21 ( ) | | | | | | | | | | |
| 22 ( ) | | | | | | | | | | |
| 23 ( ) | | | | | | | | | | |
| 24 ( ) | | | | | | | | | | |
| 25 ( ) | | | | | | | | | | |
| 26 ( ) | | | | | | | | | | |
| 27 ( ) | | | | | | | | | | |
| 28 ( ) | | | | | | | | | | |
| 29 ( ) | | | | | | | | | | |
| 30 ( ) | | | | | | | | | | |
| 31 ( ) | | | | | | | | | | |
| 32 ( ) | | | | | | | | | | |
| 33 ( ) | | | | | | | | | | |
| 34 ( ) | | | | | | | | | | |
| 35 ( ) | | | | | | | | | | |
| 36 ( ) | | | | | | | | | | |
| 37 ( ) | | | | | | | | | | |
| 38 ( ) | | | | | | | | | | |
| 39 ( ) | | | | | | | | | | |
| 40 ( ) | | | | | | | | | | |
| 41 ( ) | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 ( ) | | | | | | | | | | |
| 43 ( ) | | | | | | | | | | |
| 44 ( ) | | | | | | | | | | |
| 46 ( ) | | | | | | | | | | |
| 46 ( ) | | | | | | | | | | |
| 47 ( ) | | | | | | | | | | |
| 48 ( ) | | | | | | | | | | |
| 49 ( ) | | | | | | | | | | |
| 50 ( ) | | | | | | | | | | |

Phase II Hands-On Component

Summary of Acceptability to Raters
(Question Sheet 2)

**Instructions:** (1) Enter for each Scoreable Unit the percent of raters responding YES to each question.

(2) Circle any entry less than 75 percent.

| Scoreable Unit | Questions 1 | 2 | 3 | Notes |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |

Check whether results apply to:
___ Local tryout
___ Field tryout

Phase II Hands-On Component

Summary of Acceptability to Representative Soldiers
(Question Sheet 4)

Instructions: (1) Enter the number of soldiers on which the results are based in the parentheses next to each Scoreable Unit number.

(2) Enter the percent soldiers accepting the test as a fair measure of ability.

(3) Circle any entry less than 65 percent.

| Scoreable Unit | Percent YES | Notes |
|---|---|---|
| 1 ( ) | | |
| 2 ( ) | | |
| 3 ( ) | | |
| 4 ( ) | | |
| 5 ( ) | | |
| 6 ( ) | | |
| 7 ( ) | | |
| 8 ( ) | | |
| 9 ( ) | | |
| 10 ( ) | | |
| 11 ( ) | | |
| 12 ( ) | | |
| 13 ( ) | | |
| 14 ( ) | | |
| 15 ( ) | | |
| 16 ( ) | | |

Check whether results apply to:
___ Local tryout
___ Field tryout

Phase II Hands-On Component

Summary of Rater Agreement

Instructions: (1) Enter the percent rater agreement for each Performance Measure in each Scoreable Unit.

(2) Circle any entry less than 80 percent.

| Scoreable Unit | Performance Measure | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | |

Phase II Written Component

Tryout of Written Scoreable Unit Against
Performance Test of the Same Task

Task title and number _____

| EXPECTED MASTERS | PERFORMANCE TEST | |
|---|---|---|
| | PASS | FAIL |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| Number Pass | | |

Proportion expected masters pass (Number pass/Number of expected masters) =

| EXPECTED NONMASTERS | PERFORMANCE TEST | |
|---|---|---|
| | PASS | FAIL |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| Number Pass | | |

Proportion expected nonmasters pass (Number pass/Number of expected nonmasters) =

| SOLDIER | PERFORMANCE TEST (pass=1, fail=0) | ITEMS (pass=1, fail=0) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| Total Pass | | | | | | | | | | | |

PERFORMANCE TEST

AGREEMENT INDEX

ITEM 1

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 2

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 3

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 4

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 5

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

PERFORMANCE TEST

AGREEMENT INDEX

ITEM 6

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 7

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 8

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 9

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

ITEM 10

| | Pass | Fail |
|---|---|---|
| Pass | | |
| Fail | | |

_____

Phase II Written Component

Summary of Acceptability to Expert Soldiers
(Question Sheet 5)

Instructions: (1) Enter the number of soldiers on which the results are based in the parentheses next to each Scoreable Unit number.

(2) Enter the percent soldiers accepting the test as a fair measure of ability.

(3) Circle any entry less than 80 percent.

| Scoreable Unit | Percent YES | Notes |
|---|---|---|
| 1 ( ) | | |
| 2 ( ) | | |
| 3 ( ) | | |
| 4 ( ) | | |
| 5 ( ) | | |
| 6 ( ) | | |
| 7 ( ) | | |
| 8 ( ) | | |
| 9 ( ) | | |
| 10 ( ) | | |
| 11 ( ) | | |
| 12 ( ) | | |
| 13 ( ) | | |
| 14 ( ) | | |
| 15 ( ) | | |
| 16 ( ) | | |

| Scoreable Unit | Percent YES | Notes |
|---|---|---|
| 17 ( ) | | |
| 18 ( ) | | |
| 19 ( ) | | |
| 20 ( ) | | |
| 21 ( ) | | |
| 22 ( ) | | |
| 23 ( ) | | |
| 24 ( ) | | |
| 25 ( ) | | |
| 26 ( ) | | |
| 27 ( ) | | |
| 28 ( ) | | |
| 29 ( ) | | |
| 30 ( ) | | |
| 31 ( ) | | |
| 32 ( ) | | |
| 33 ( ) | | |
| 34 ( ) | | |
| 35 ( ) | | |
| 36 ( ) | | |
| 37 ( ) | | |
| 38 ( ) | | |
| 39 ( ) | | |
| 40 ( ) | | |

| Scoreable Unit | Percent YES | Notes |
|---|---|---|
| 41 ( ) | | |
| 42 ( ) | | |
| 43 ( ) | | |
| 44 ( ) | | |
| 45 ( ) | | |
| 46 ( ) | | |
| 47 ( ) | | |
| 48 ( ) | | |
| 49 ( ) | | |
| 50 ( ) | | |

Inase II Written Component

Summary of Agreement Indices between
Self-Ratings and Scoreable Units

Instructions: (1) Enter the number of soldiers on which the results are based in the parentheses next to the Scoreable Unit number.

(2) Enter for each Scoreable Unit the Agreement Index for each item.

(3) Circle any zero or negative entry.

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 ( ) | | | | | | | | | | |
| 2 ( ) | | | | | | | | | | |
| 3 ( ) | | | | | | | | | | |
| 4 ( ) | | | | | | | | | | |
| 5 ( ) | | | | | | | | | | |
| 6 ( ) | | | | | | | | | | |
| 7 ( ) | | | | | | | | | | |
| 8 ( ) | | | | | | | | | | |
| 9 ( ) | | | | | | | | | | |
| 10 ( ) | | | | | | | | | | |
| 11 ( ) | | | | | | | | | | |
| 12 ( ) | | | | | | | | | | |
| 13 ( ) | | | | | | | | | | |
| 14 ( ) | | | | | | | | | | |
| 15 ( ) | | | | | | | | | | |
| 16 ( ) | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 ( ) | | | | | | | | | | |
| 18 ( ) | | | | | | | | | | |
| 19 ( ) | | | | | | | | | | |
| 20 ( ) | | | | | | | | | | |
| 21 ( ) | | | | | | | | | | |
| 22 ( ) | | | | | | | | | | |
| 23 ( ) | | | | | | | | | | |
| 24 ( ) | | | | | | | | | | |
| 25 ( ) | | | | | | | | | | |
| 26 ( ) | | | | | | | | | | |
| 27 ( ) | | | | | | | | | | |
| 28 ( ) | | | | | | | | | | |
| 29 ( ) | | | | | | | | | | |
| 30 ( ) | | | | | | | | | | |
| 31 ( ) | | | | | | | | | | |
| 32 ( ) | | | | | | | | | | |
| 33 ( ) | | | | | | | | | | |
| 34 ( ) | | | | | | | | | | |
| 35 ( ) | | | | | | | | | | |
| 36 ( ) | | | | | | | | | | |
| 37 ( ) | | | | | | | | | | |
| 38 ( ) | | | | | | | | | | |
| 39 ( ) | | | | | | | | | | |
| 40 ( ) | | | | | | | | | | |
| 41 ( ) | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 ( ) | | | | | | | | | | |
| 43 ( ) | | | | | | | | | | |
| 44 ( ) | | | | | | | | | | |
| 45 ( ) | | | | | | | | | | |
| 46 ( ) | | | | | | | | | | |
| 47 ( ) | | | | | | | | | | |
| 48 ( ) | | | | | | | | | | |
| 49 ( ) | | | | | | | | | | |
| 50 ( ) | | | | | | | | | | |

Phase II Written Component

Summary of Agreement Indices between
Items and Scoreable Units

Instructions: (1) Enter the number of soldiers on which the results are based in the parentheses next to the Scoreable Unit number.

(2) Enter for each Scoreable Unit the Agreement Index for each item.

(3) Circle any zero or negative entry.

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 ( ) | | | | | | | | | | |
| 2 ( ) | | | | | | | | | | |
| 3 ( ) | | | | | | | | | | |
| 4 ( ) | | | | | | | | | | |
| 5 ( ) | | | | | | | | | | |
| 6 ( ) | | | | | | | | | | |
| 7 ( ) | | | | | | | | | | |
| 8 ( ) | | | | | | | | | | |
| 9 ( ) | | | | | | | | | | |
| 10 ( ) | | | | | | | | | | |
| 11 ( ) | | | | | | | | | | |
| 12 ( ) | | | | | | | | | | |
| 13 ( ) | | | | | | | | | | |
| 14 ( ) | | | | | | | | | | |
| 15 ( ) | | | | | | | | | | |
| 16 ( ) | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 ( ) | | | | | | | | | | |
| 18 ( ) | | | | | | | | | | |
| 19 ( ) | | | | | | | | | | |
| 20 ( ) | | | | | | | | | | |
| 21 ( ) | | | | | | | | | | |
| 22 ( ) | | | | | | | | | | |
| 23 ( ) | | | | | | | | | | |
| 24 ( ) | | | | | | | | | | |
| 25 ( ) | | | | | | | | | | |
| 26 ( ) | | | | | | | | | | |
| 27 ( ) | | | | | | | | | | |
| 28 ( ) | | | | | | | | | | |
| 29 ( ) | | | | | | | | | | |
| 30 ( ) | | | | | | | | | | |
| 31 ( ) | | | | | | | | | | |
| 32 ( ) | | | | | | | | | | |
| 33 ( ) | | | | | | | | | | |
| 34 ( ) | | | | | | | | | | |
| 35 ( ) | | | | | | | | | | |
| 36 ( ) | | | | | | | | | | |
| 37 ( ) | | | | | | | | | | |
| 38 ( ) | | | | | | | | | | |
| 39 ( ) | | | | | | | | | | |
| 40 ( ) | | | | | | | | | | |
| 41 ( ) | | | | | | | | | | |

| Scoreable Unit | Item | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 42 ( ) | | | | | | | | | | |
| 43 ( ) | | | | | | | | | | |
| 44 ( ) | | | | | | | | | | |
| 45 ( ) | | | | | | | | | | |
| 46 ( ) | | | | | | | | | | |
| 47 ( ) | | | | | | | | | | |
| 48 ( ) | | | | | | | | | | |
| 49 ( ) | | | | | | | | | | |
| 50 ( ) | | | | | | | | | | |

Phase II Written Component

Summary Evaluation of Items

Instructions: (1) Use the following scale to indicate the summary evaluation for each item within each Scoreable Unit.

A = Acceptable (both agreement indices positive)
B = Review (only one agreement index positive)
C = Revise (neither agreement index positive)

(2) Enter A, B, or C for each item in each Scoreable Unit.

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 26 | | | | | | | | | | |
| 27 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 29 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 31 | | | | | | | | | | |
| 32 | | | | | | | | | | |
| 33 | | | | | | | | | | |
| 34 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 36 | | | | | | | | | | |
| 37 | | | | | | | | | | |
| 38 | | | | | | | | | | |
| 39 | | | | | | | | | | |
| 40 | | | | | | | | | | |

| Scoreable Unit | Item 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 41 | | | | | | | | | | |
| 42 | | | | | | | | | | |
| 43 | | | | | | | | | | |
| 44 | | | | | | | | | | |
| 45 | | | | | | | | | | |
| 46 | | | | | | | | | | |
| 47 | | | | | | | | | | |
| 48 | | | | | | | | | | |
| 49 | | | | | | | | | | |
| 50 | | | | | | | | | | |

ADMINISTRATION OF WRITTEN SCOREABLE UNIT TO ITEM WRITER

Task title and number _____

INITIAL SELF-RATING: 0 ___ 1 ___ 2 ___ 3 ___

TIME: START ___ FINISH ___ TOTAL ___

| ITEM WRITER'S RESPONSES | ITEM 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| A. DID NOT KNOW SUBJECT MATTER | | | | | | | | | | |
| *B. DISAGREED WITH KEY | | | | | | | | | | |
| *C. DID NOT UNDERSTAND QUESTION | | | | | | | | | | |
| *D. DID NOT UNDERSTAND ALTERNATIVES | | | | | | | | | | |
| E. CONFUSED BY MULTI-CORRECT ALTERNATIVES | | | | | | | | | | |
| *F. CONFUSED BY CHART OR ILLUSTRATION | | | | | | | | | | |
| G. ALTERNATIVES DID NOT REQUIRE THOUGHT | | | | | | | | | | |
| *H. QUESTION CONFUSING | | | | | | | | | | |
| *I. ALTERNATIVES CONFUSING | | | | | | | | | | |
| *J. NOT "REAL WORLD" ALTERNATIVES | | | | | | | | | | |
| K. IMPROPER SUBJECT MATTER LEVEL | | | | | | | | | | |
| L. KNOWLEDGE NOT CRITICAL FOR PERFORMANCE | | | | | | | | | | |
| M. TEST CONTAINED INTERNAL EVIDENCE | | | | | | | | | | |
| N. ITEM IS SATISFACTORY | | | | | | | | | | |

*IDENTIFY RESPONSES BY ITEM NUMBER AND RECORD COMMENTS.

| RESPONSE/ ITEM | EXPERT'S COMMENTS |
|---|---|

QUESTIONS AND/OR COMMENTS CONCERNING ANY ASPECT OF THE TESTING OR ADMINISTRATION: _____

SELF-RATING AFTER COMPLETION OF SCOREABLE UNIT (BEFORE SCORING) THE SAME AS INITIAL SELF-RATING? YES ___ NO ___ IF NOT, WHY? _____

IS THE SCOREABLE UNIT CONSIDERED TO BE A TRUE MEASURE OF ABILITY TO PERFORM THE TASK? YES ___ NO ___ IF NOT, WHY? _____

TRYOUT OF WRITTEN SCOREAPLE UNIT.

Task title and number _____

| SOLDIERS | ITEMS | | | | | | | | | | TOTAL SCORE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| 16 | | | | | | | | | | | |
| 17 | | | | | | | | | | | |
| 18 | | | | | | | | | | | |
| 19 | | | | | | | | | | | |
| 20 | | | | | | | | | | | |
| 21 | | | | | | | | | | | |
| 22 | | | | | | | | | | | |
| 23 | | | | | | | | | | | |
| 24 | | | | | | | | | | | |
| 25 | | | | | | | | | | | |
| 26 | | | | | | | | | | | |
| 27 | | | | | | | | | | | |
| 28 | | | | | | | | | | | |
| 29 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| NUMBER PASSING | | | | | | | | | | | |
| NUMBER FAILING | | | | | | | | | | | |
| EXPERTS PASS (a) | | | | | | | | | | | |
| NOVICES PASS (b) | | | | | | | | | | | |
| EXPERTS FAIL (c) | | | | | | | | | | | |
| NOVICES FAIL (d) | | | | | | | | | | | |
| HIGHS PASS (a) | | | | | | | | | | | |
| LOWS PASS (b) | | | | | | | | | | | |
| HIGHS FAIL (c) | | | | | | | | | | | |
| LOWS FAIL (d) | | | | | | | | | | | |
| AGREEMENT INDEX | | | | | | | | | | | |

SUMMARY FORM FOR SCOREABLE UNITS WITH FOUR OR FEWER ITEMS.

Task title and number _____

| | | ITEM 2 P | ITEM 2 F | ITEM 3 P | ITEM 3 F | ITEM 4 P | ITEM 4 F |
|---|---|---|---|---|---|---|---|
| ITEM 1 | P | | | | | | |
| | F | | | | | | |
| ITEM 2 | P | | | | | | |
| | F | | | | | | |
| ITEM 3 | P | | | | | | |
| | F | | | | | | |

| ITEM PAIRS | AGREEMENT INDEX GREATER THAN ZERO YES | NO |
|---|---|---|
| Item 1 - Item 2 | | |
| Item 1 - Item 3 | | |
| Item 1 - Item 4 | | |
| Item 2 - Item 3 | | |
| Item 2 - Item 4 | | |
| Item 3 - Item 4 | | |